

***Legionella* Outbreak Response and Prevention in Skilled Nursing Facilities — Los Angeles County**

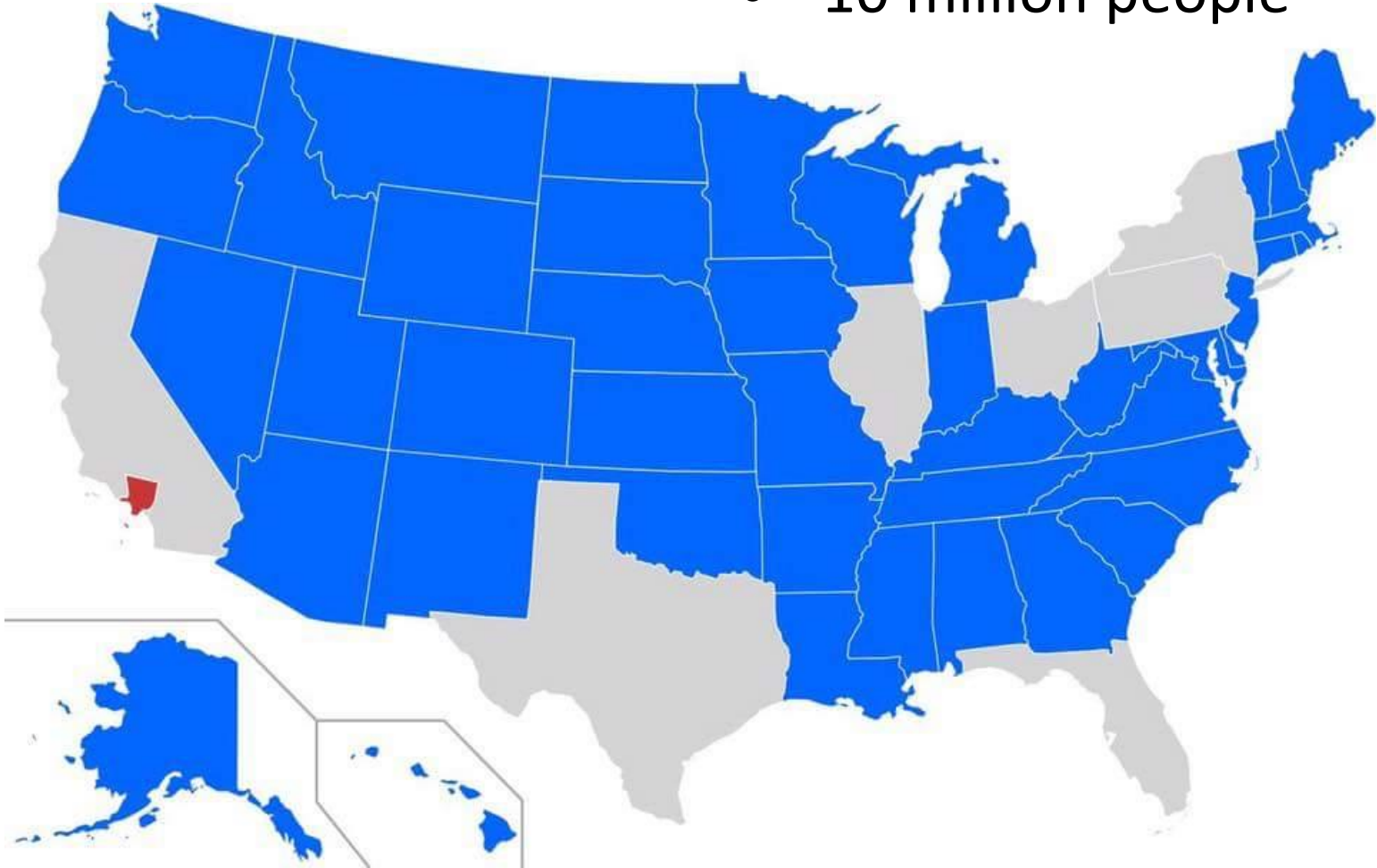
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Los Angeles County

- 88 cities
- 4,751 square miles
- 10 million people



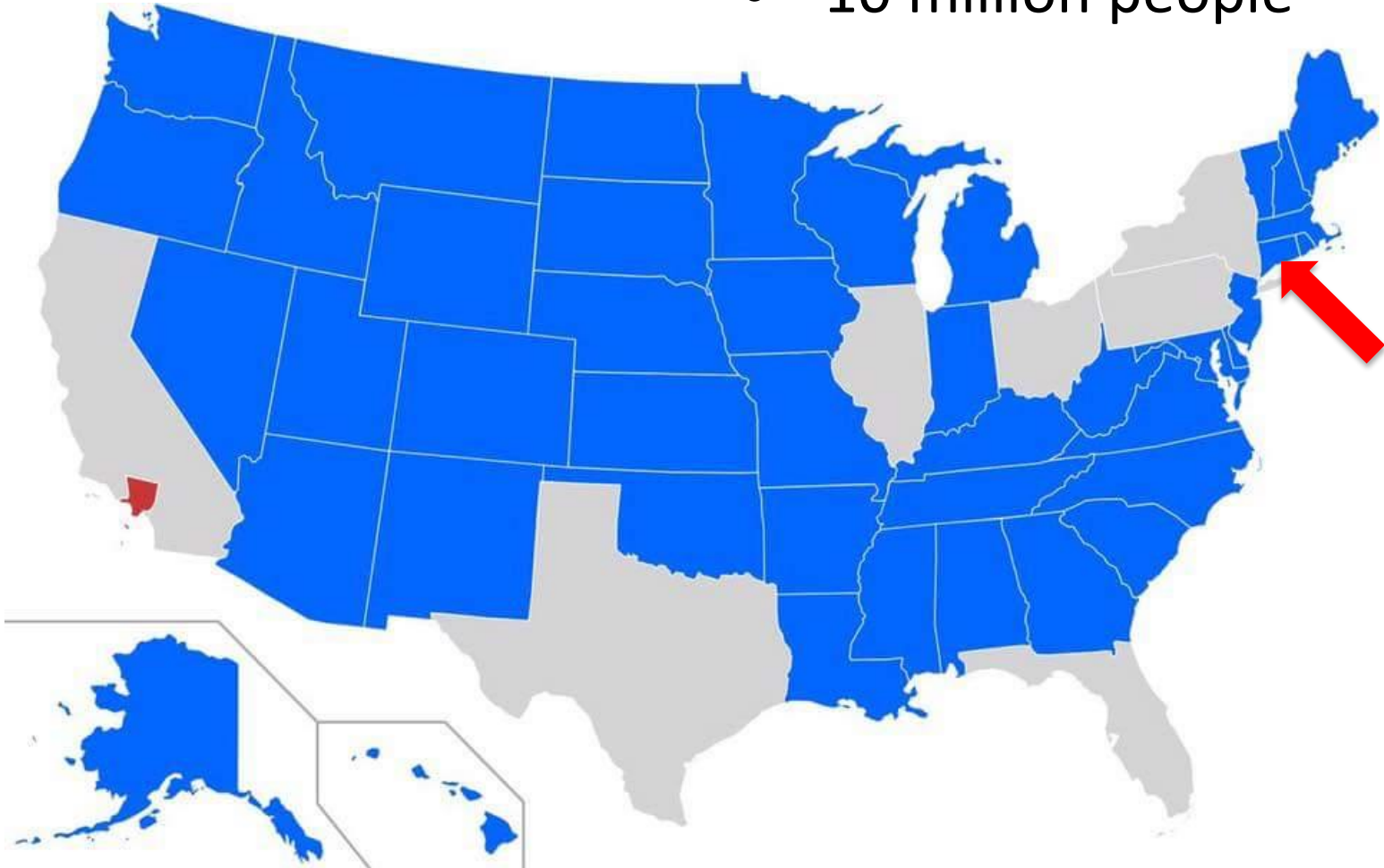
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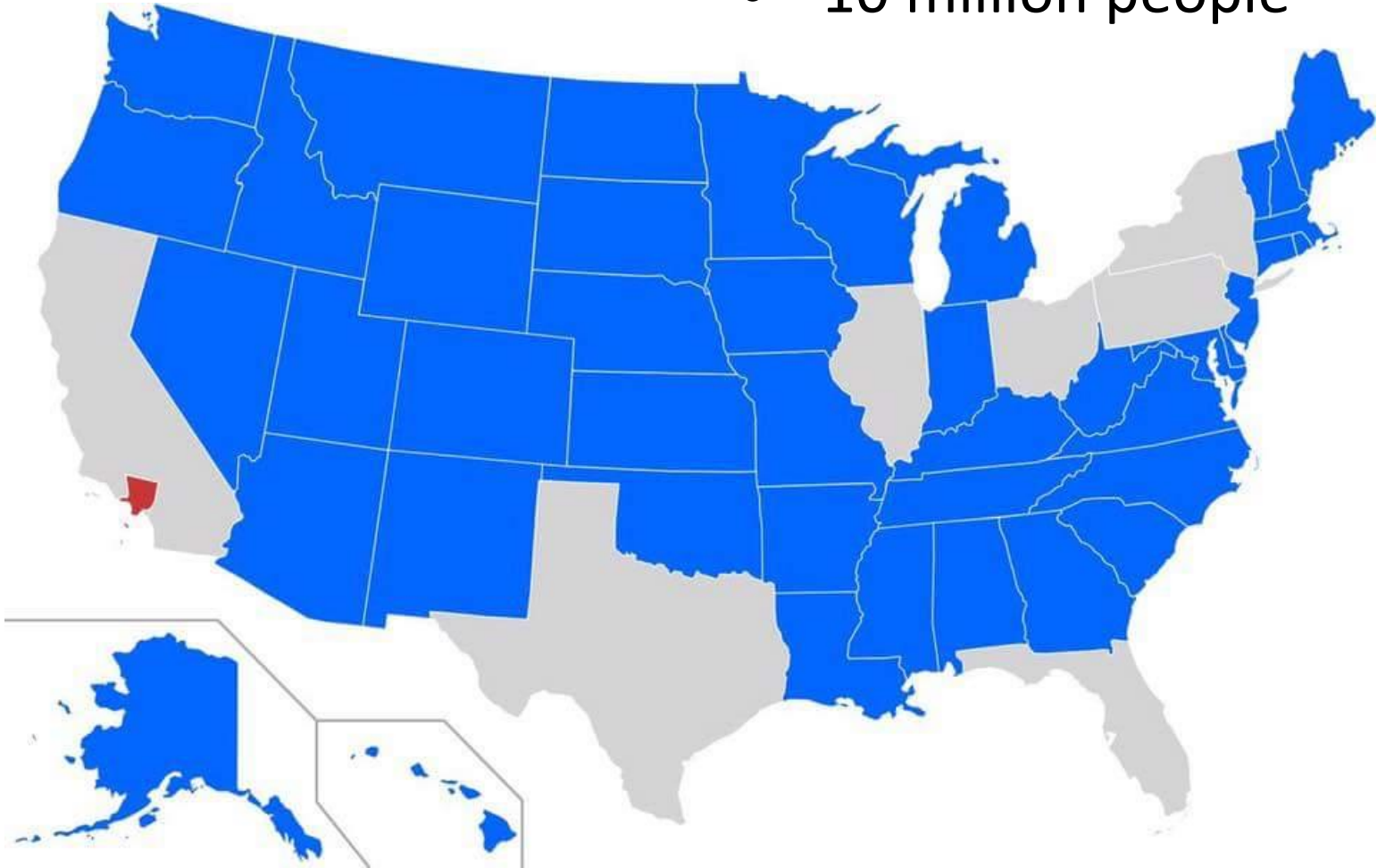
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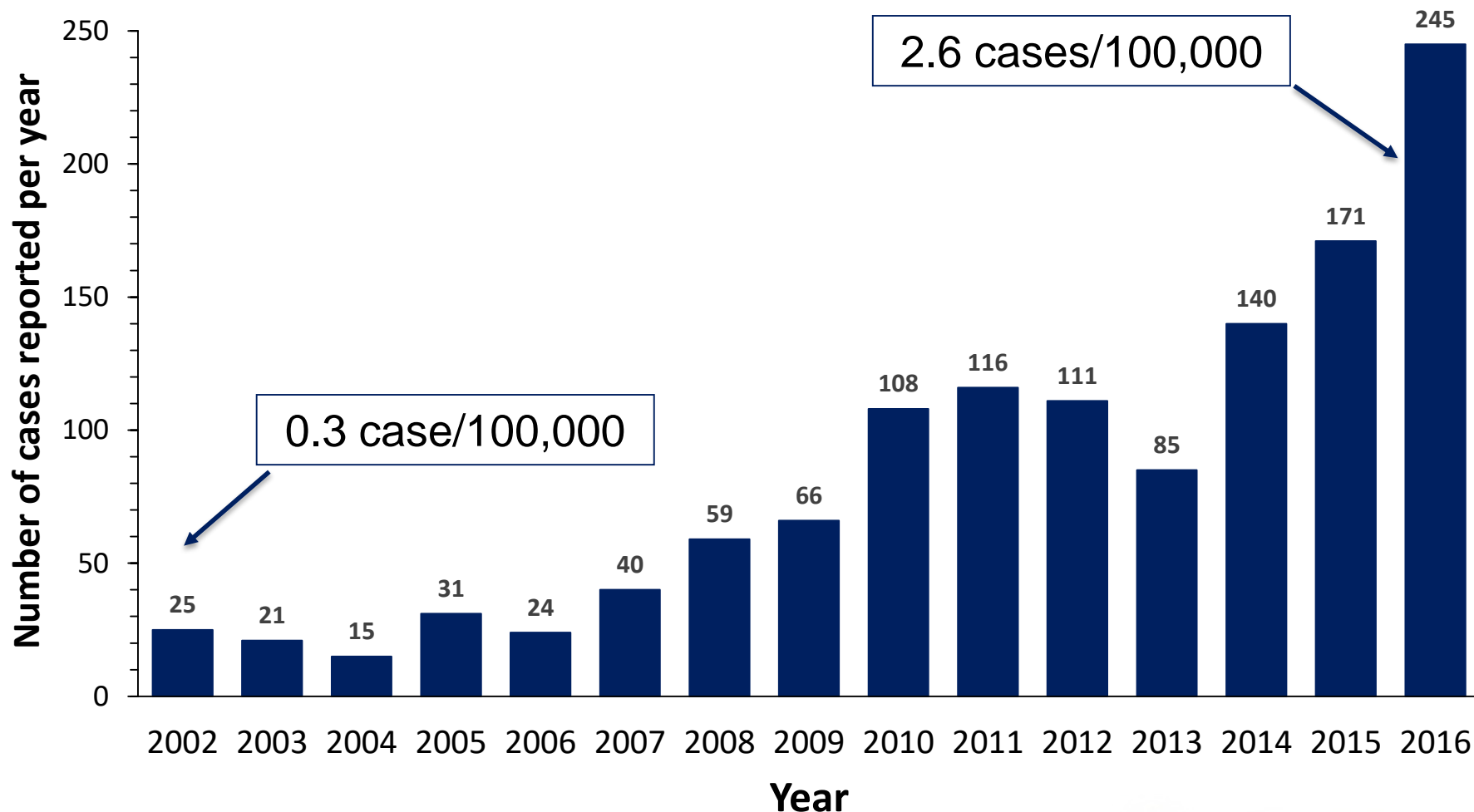
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Legionellosis in LA County, 2002–2016

9-fold increase in reported Legionellosis cases



***Legionella* Surveillance in LA County**

- Reportable disease
 - Providers
 - Laboratories
- CDC Case Classification
 - Suspected – a clinically compatible case that meets a *presumptive* laboratory criteria (not investigated)
 - Confirmed – a clinically compatible case that meets a *confirmatory* laboratory criteria:
 - Positive urine antigen
 - Positive culture from respiratory specimen
 - 4-fold increase in Lp1 antibody titer



Case Investigation

- Initial evaluation of case reports
 - Review medical records confirm case
 - Interview cases to complete hypothesis generating questionnaire
 - Healthcare exposure → Consider investigation
- ~3-5 Legionnaires' disease cases in skilled-nursing facilities investigated/year



When does Public Health investigate healthcare-associated Legionnaires' disease?

- ≥ 1 case of *definite* healthcare-associated Legionnaires' disease is identified
- ≥ 2 cases of *possible* healthcare-associated Legionnaires' disease is identified within 12 months of each other at same facility



Definition of healthcare-associated Legionnaires' disease

- Definite case if patient was hospitalized at one or more facilities during the entire 2 to 10 day incubation period (time between exposure and symptom onset)
- Possible case if patient was hospitalized at one or more facilities for a portion of the 2 to 10 day incubation period



Additional Considerations in Decision to Investigate a Single Definite Case

1. Potential *Legionella* exposures outside the facility
 - Focus on exposure to other water sources or healthcare facilities
2. Clinical characteristics of facility residents
 - Lower threshold for facilities with large number of patients at high-risk for *Legionella*
3. Facility's risk for having *Legionella*
 - Review water management plan
 - Review results of prior environmental testing
4. Facility's capacity to conduct adequate prospective surveillance to identify additional cases



Single “Low-Definite” Case: Enhanced Surveillance

- 6-month retrospective review for healthcare-associated pneumonia cases → *Legionella* urine antigen
- 6-month prospective surveillance → *Legionella* urine antigen and sputum cultures on all healthcare-associated pneumonia cases
- Share *Legionella* water management guidance
- Full investigation if additional cases identified



“High Definite” or Multiple Possible Cases: Initiate Full Investigation

- Epidemiology (investigation lead and SNF’s point of contact)
- Environmental health (depending on facility and hypothesized exposures)
 - Environmental Protection Drinking Water Program (water quality)
 - Cross Connections and Water Pollution Control Program (plumbing systems)
 - Recreational Waters Program (pools and spas)
 - Toxicology and Environment Assessment Program (air handling)
 - Housing Institutions (jails and housing facilities)
- Other support
 - Public Health Laboratory
 - Health Facilities Inspection Division (License/regulate SNFs)



Key Elements of a Full Investigation

- **Perform a retrospective review** of cases
- **Prospective review** of case to identify additional (new) cases
- Consider **immediate control measures**
- Facilitate **environmental assessment**
- Facilitate **environmental sampling**, as indicated by the environmental assessment
- Work with healthcare facility leaders to **review and revise the water management program**
- Follow up to **assess the effectiveness** of implemented measures



LA County Public Health Communication Guidance for Facilities

- Standardized guidance and templates for clinicians and facilities on how to communicate outbreaks to patients, visitors, and staff
- Rationale
 - Clear and timely communication critical for controlling and preventing disease transmission
 - Transparency necessary for trust and credibility
 - Lack of national guidelines



Healthcare Facility Communication Responsibilities

- Communicate information regarding outbreaks to affected and exposed patients, visitors, and healthcare-personnel (written and verbal preferred)
 - How the pathogen is transmitted?
 - What is the risk to others?
 - How to protect themselves from infection?
 - What is facility is doing to address outbreak?
- Public Health might require posting visible notification in common areas of affected units



Public Health Responsibilities

- Reinforcing healthcare facility responsibilities
- Review and approve the written communications
- Verify notification has been posted in visible areas
- Coordinate with Public Information Office if broader public notification necessary
- Communicate when the notice can be removed



SKILLED NURSING FACILITY (SNF) LEGIONELLA OUTREACH PROGRAM



Overview of SNFs in LA County

- 344 SNFs
 - 315 free-standing
 - 29 distinct-part of hospital
- Among freestanding SNFs
 - 31 (10%) <50 beds
 - 175 (56%) 50-99 beds
 - 61 (19%) 100-150 beds
 - 48 (15%) >150 beds



DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Medicare & Medicaid Services
7500 Security Boulevard, Mail Stop C2-21-16
Baltimore, Maryland 21244-1850



Center for Clinical Standards and Quality/Quality, Safety and Oversight Group

Ref: **QSO-17-30- Hospitals/CAHs/NHs**
REVISED 07.06.2018

DATE: June 02, 2017

TO: State Survey Agency Directors

FROM: Director
Quality, Safety and Oversight Group (*formerly Survey & Certification Group*)

SUBJECT: Requirement to Reduce *Legionella* Risk in Healthcare Facility Water Systems to Prevent Cases and Outbreaks of Legionnaires' Disease (LD)

******Revised to Clarify Expectations for Providers, Accrediting Organizations, and Surveyors******

“Facilities must develop and adhere to policies and procedures that inhibit microbial growth in building water systems that **reduce the risk of growth and spread of Legionella** and other opportunistic pathogens in water.”



***Legionella* Knowledge, Attitudes, and Practices(KAP) in SNFs Survey – March, 2018**

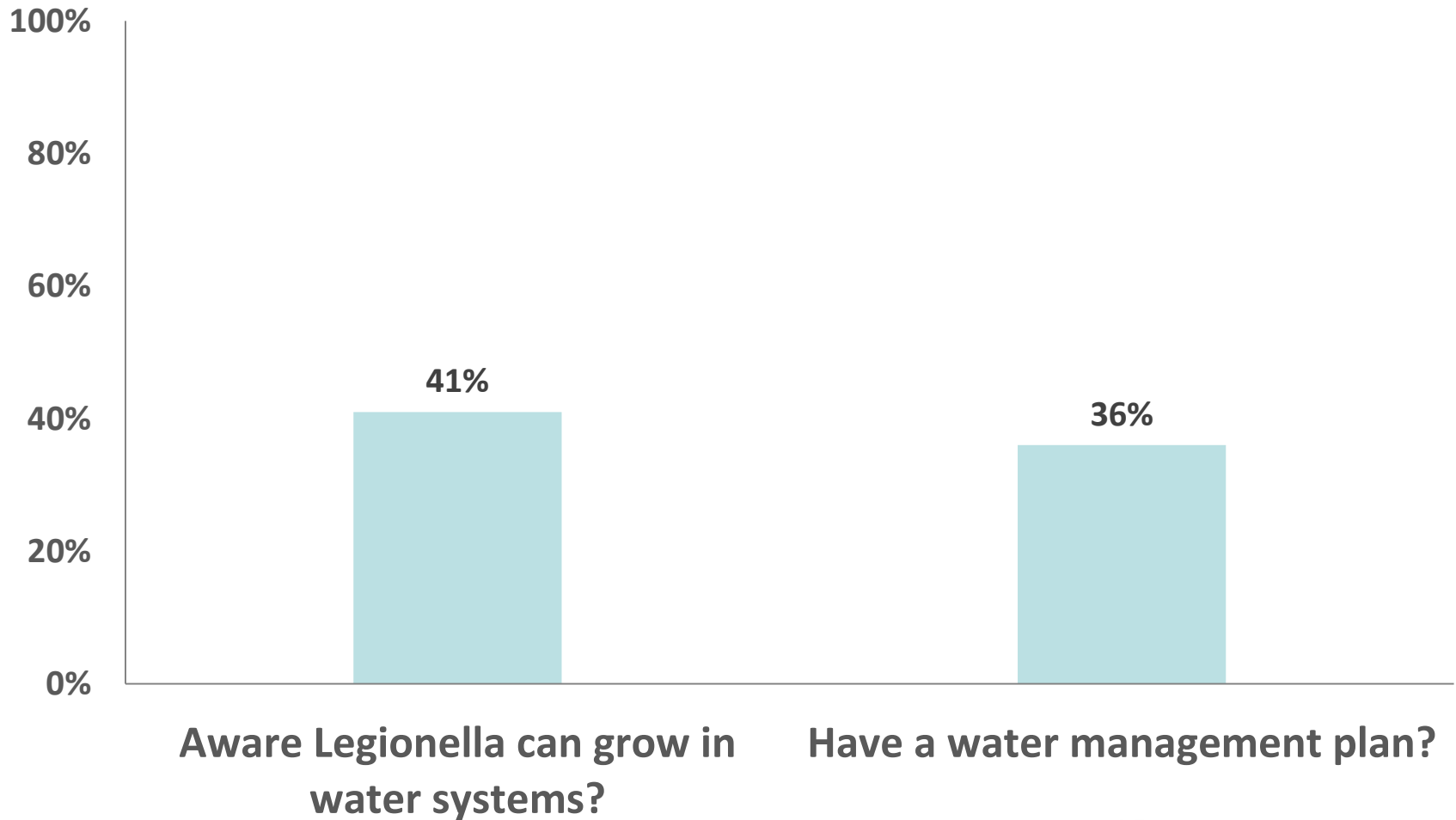
1. Are you aware that *Legionella* bacteria can grow in facility water systems and cause infections?
 - ☐ Yes
 - ☐ No
 - ☐ I don't know

2. How do you think someone acquires *Legionella* infection? (Check all that apply.)
 - ☐ Inhalation of aerosolized droplets from *Legionella* contaminated water
 - ☐ Inhalation of aerosolized respiratory droplets from a person with *Legionella* infection
 - ☐ Ingestion of *Legionella* contaminated water
 - ☐ Direct physical contact with a *Legionella* contaminated environmental surface
 - ☐ I don't know

3. Does your facility have written water management policies and procedures in place to reduce the risk of *Legionella* growth and spread?
 - ☐ Yes (If so, please attach a copy of the policies and procedures to this survey response)
 - ☐ No
 - ☐ I don't know



Key KAP Survey Results (N = 75)



SNF *Legionella* Outreach

- Rationale for focusing on SNFs
 - SNFs have fewer resources than acute care hospitals
 - Higher proportion of patients at-risk for *Legionella* (e.g., age ≥ 50 years)
 - ~25% case-fatality
- Outreach Strategy
 - 1-day *Legionella* WMP large-group training
 - One-on-one outreach and technical assistance to selected facilities



Legionella WMP Training, October 2018



- Public-private partnership
 - Public Health provided venue and managed registration
 - IDEXX provided expert speakers on environmental testing and ASHRAE guidelines
- ~200 attendees
 - Representing >100 facilities
 - Prioritized attendance by persons representing nursing, administration, and facilities management

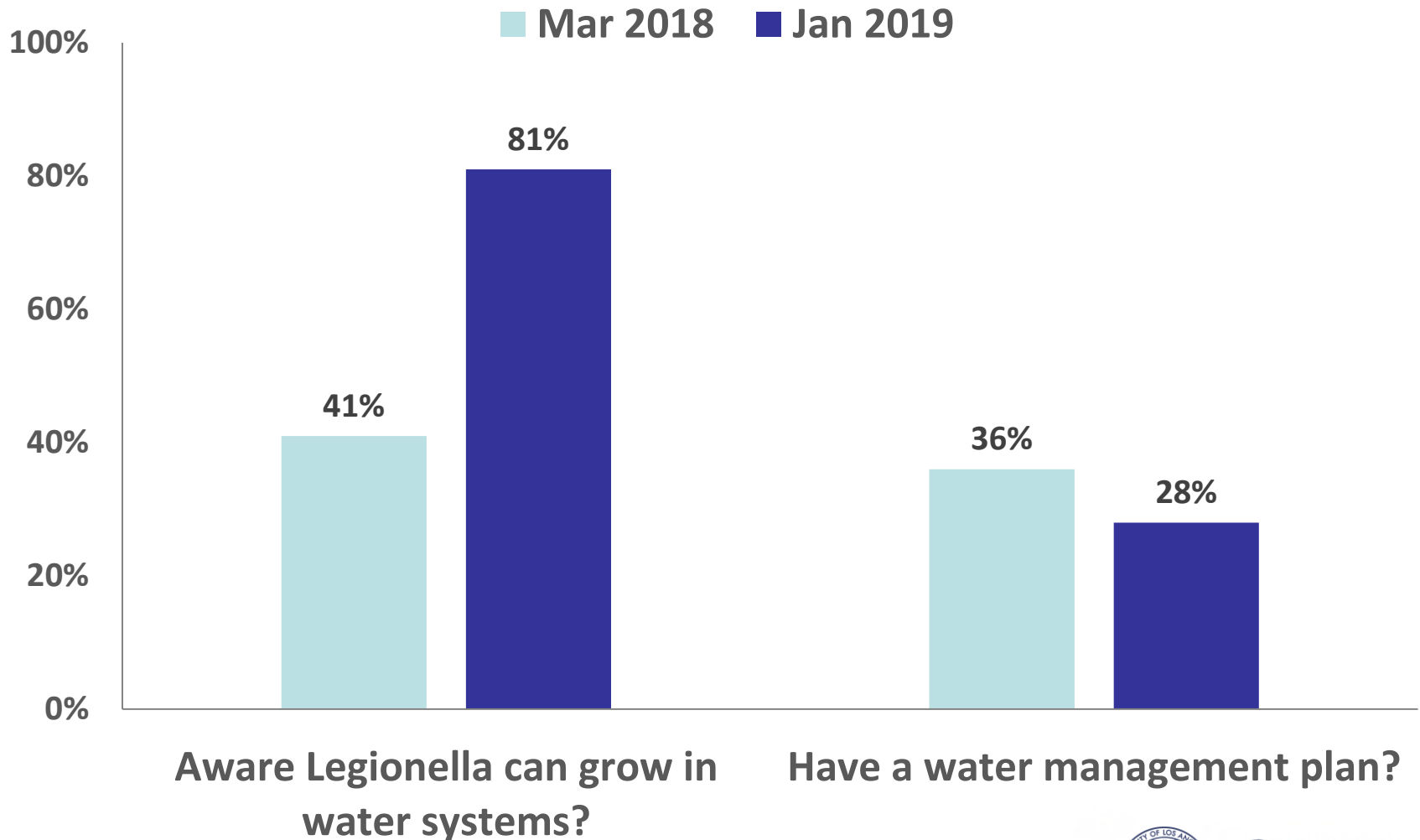


KAP Survey Results After 1-Day *Legionella* WMP Training

- Conducted survey January 2019
- Sent to all SNFs in LA County
- 80 SNFs responded
 - 32 attended 1-day WMP training



Follow-Up Survey Results



Conclusions

- 1-day training can increase *Legionella* WMP knowledge among large group of attendees
- Further evaluation necessary to understand barriers to implementing WMPs in SNFs
- Additional technical assistance might be necessary to increase WMP implementation



Targeted SNF Outreach and Education

- Epidemiologist coordinated visits to individual SNFs
- Provided education to administrative and nursing staff on *Legionella*
 - Why is it a public health concern?
 - How can it be prevented?
 - Importance of appropriate testing
- Maintain contact with facilities after outreach to ensure appropriate testing occurring
 - Minimal increase
- 40 SNFs assisted to date in 2019



Directed Technical Assistance on WMPs

- Industrial Hygienist partnered with Epidemiologist
- Provided education on *Legionella* WMPs
- Follow-up with SNFs to ensure adequate WMP in place
 - Develop if none exists
 - Optimize if one in place
 - Ensure implementation



WATER MANAGEMENT PLANS IN SNFs

Breakout Session #1

1:05 pm – 1:55 pm

Room S1-120

